

Ing. Jakub Sochor, Ph.D.



Contact Information

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<https://sochor.me>

Profile

I am a Software Engineer, Researcher, and a Team leader with a focus on Computer Vision (CV) and Machine Learning (ML).

I have experience with many aspects of software engineering and ML research:

- **Top level research**

Supported by my first-author publications in top level conferences and journals (e.g. CVPR, CVIU) during my Ph.D. studies

- **Applied research**

As shown by novel and innovative solutions developed in all the companies I have worked at in the past

- **Large scale infrastructure**

The features I have launched at Google were actively used by hundreds of thousands users daily and at the same time, the service had to handle thousands of requests per second

- **Project leadership**

I led projects that were successfully launched at Google and Innovatrics

- **People management**

I managed a team of 7 at Innovatrics

- **Architecture and SW design**

I designed multiple services and libraries during my professional experience

An extended online version of the resume can be found at sochor.me.

Professional Experience

Innovatrics

AI Solution Expert / Teamleader (06/2021 - present, Brno)

- I was a team leader of a Fingerprints Team with 7 team members
- The team worked on fingerprints verification, identification, detection, ...
- While I led the team, multiple novel solutions were launched - for example:
 - Fingerprints verification heavily utilising neural networks outperforming all the other industry solutions as verified by the first place in NIST MINEX benchmark
 - Fingerprints identification based on neural networks outperforming the previous solution both in accuracy and speed (100x speed up)
- I also led infrastructure, quality checks, and shared code improvements across the whole R&D department

Google

Software Engineer – level 4 (08/2019 - 03/2021, Zurich)

- As a member of Proactive Google Assistant, I owned and led various projects utilising Machine Learning methods at Google
- Multiple team members have worked on the projects I have led and the features I have launched are used by hundreds of thousands of users

PTC

Senior Deep Learning Engineer (08/2018 - 07/2019, Zurich)

- I was a key team member working on a project that used ML methods for 6 DoF object pose estimation with only 3D models for training
- The feature was commercially launched as a part of Vuforia Engine

Vlatacom

Computer Vision Developer (11/2017 – 01/2018, Belgrade)

- I spent three months on a secondment in Vlatacom within iARTIST European project
- The outcome of the secondment was a proof of concept for the application of fine-grained vehicle classification and vehicle colour recognition

Brno University of Technology

Researcher – Computer Vision & Machine Learning (11/2013 – 07/2018, Brno)

- I made contributions to the design of DNNs published in top journals and conferences (CVPR, CVIU, etc.) – sochor.me/publications

Further details and the complete history is at sochor.me/experience



Skills

Machine Learning
Computer Vision
Project Leadership
People Management
DevOps

Programming Languages

Python, C++

Libraries and Tools

Tensorflow, NumPy, Abseil,
PyTorch
Docker, Git, Bazel
MapReduce
Microservices

Languages

English – fluent
Czech – native
German – basic

Education – Brno University of Technology

Ph.D. (06/2014 – 06/2018)

- Focus on Computer Vision and Machine Learning methods
- First-author publications in top journals and conferences (CVPR, CVIU, etc.) – see sochor.me/publications for the list of all the publications
- Thesis topic: *Automatic Traffic Video Surveillance: Fine-Grained Recognition of Vehicles and Automatic Speed Measurement*

Master's degree (09/2012 – 06/2014)

- Field of study: *Mathematical Methods in Information Technology*
- Thesis topic: *Traffic Analysis from Video*
- Graduated with honours

Bachelor's degree (09/2009 – 06/2012)

- Field of study: *Information Technology*
- Thesis topic: *Fast Detection of Traffic Signs in Image*
- Graduated with honours